



PV1600™

Power Amplifier

Operating Manual





Intended to alert the user to the presence of uninsulated “dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



Intended to alert the user of the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

CAUTION: Risk of electrical shock — DO NOT OPEN!

CAUTION: To reduce the risk of electric shock, do not remove cover. No user serviceable parts inside. Refer servicing to qualified service personnel.

WARNING: To prevent electrical shock or fire hazard, this apparatus should not be exposed to rain or moisture, and objects filled with liquids, such as vases, should not be placed on this apparatus. Before using this apparatus, read the operating guide for further warnings.



Este símbolo tiene el propósito, de alertar al usuario de la presencia de “(voltaje) peligroso” sin aislamiento dentro de la caja del producto y que puede tener una magnitud suficiente como para constituir riesgo de descarga eléctrica.



Este símbolo tiene el propósito de alertar al usuario de la presencia de instrucciones importantes sobre la operación y mantenimiento en la información que viene con el producto.



PRECAUCION: Riesgo de descarga eléctrica iNO ABRIR!

PRECAUCION: Para disminuir el riesgo de descarga eléctrica, no abra la cubierta. No hay piezas útiles dentro. Deje todo mantenimiento en manos del personal técnico cualificado.

ADVERTENCIA: Para prevenir choque electrico o riesgo de incendios, este aparato no se debe exponer a la lluvia o a la humedad. Los objetos llenos de liquidos, como los floreros, no se deben colocar encima de este aparato. Antes de usar este aparato, lea la guia de funcionamiento para otras advertencias.



Ce symbole est utilisé dans ce manuel pour indiquer à l’utilisateur la présence d’une tension dangereuse pouvant être d’amplitude suffisante pour constituer un risque de choc électrique.



Ce symbole est utilisé dans ce manuel pour indiquer à l’utilisateur qu’il ou qu’elle trouvera d’importantes instructions concernant l’utilisation et l’entretien de l’appareil dans le paragraphe signalé.



ATTENTION: Risques de choc électrique — NE PAS OUVRIR!

ATTENTION: Afin de réduire le risque de choc électrique, ne pas enlever le couvercle. Il ne se trouve à l’intérieur aucune pièce pouvant être reparée par l’utilisateur. Confiez l’entretien et la réparation de l’appareil à un réparateur Peavey agréé.

AVIS: Dans le but de reduire les risques d’incendie ou de decharge electrique, cet appareil ne doit pas etre expose a la pluie ou a l’humidite et aucun objet rempli de liquide, tel qu’un vase, ne doit etre pose sur celui-ci. Avant d’utiliser de cet appareil, lisez attentivement le guide fonctionnant pour avertissements supplémentaires.



Dieses Symbol soll den Anwender vor unisolierten gefährlichen Spannungen innerhalb des Gehäuses warnen, die von Ausreichender Stärke sind, um einen elektrischen Schlag verursachen zu können.



Dieses Symbol soll den Benutzer auf wichtige Instruktionen in der Bedienungsanleitung aufmerksam machen, die Handhabung und Wartung des Produkts betreffen.



VORSICHT: Risiko — Elektrischer Schlag! Nicht öffnen!

VORSICHT: Um das Risiko eines elektrischen Schlages zu vermeiden, nicht die Abdeckung entfernen. Es befinden sich keine Teile darin, die vom Anwender repariert werden könnten. Reparaturen nur von qualifiziertem Fachpersonal durchführen lassen.

WARNUNG: Um elektrischen Schlag oder Brandgefahr zu verhindern, sollte dieser Apparat nicht Regen oder Feuchtigkeit ausgesetzt werden und Gegenstände mit Flüssigkeiten gefüllt, wie Vasen, nicht auf diesen Apparat gesetzt werden. Bevor dieser Apparat verwendet wird, lesen Sie bitte den Funktionsführer für weitere Warnungen.

IMPORTANT SAFETY INSTRUCTIONS

WARNING: When using electrical products, basic cautions should always be followed, including the following:

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with a dry cloth.
7. Do not block any of the ventilation openings. Install in accordance with manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding plug. The wide blade or third prong is provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched, particularly at plugs, convenience receptacles, and the point they exit from the apparatus.
11. Only use attachments/accessories provided by the manufacturer.
12.  Use only with a cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as when power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
15. Never break off the ground pin. Write for our free booklet "Shock Hazard and Grounding." Connect only to a power supply of the type marked on the unit adjacent to the power supply cord.
16. If this product is to be mounted in an equipment rack, rear support should be provided.
17. Note for UK only: If the colors of the wires in the mains lead of this unit do not correspond with the terminals in your plug, proceed as follows:
 - a) The wire that is colored green and yellow must be connected to the terminal that is marked by the letter E, the earth symbol, colored green or colored green and yellow.
 - b) The wire that is colored blue must be connected to the terminal that is marked with the letter N or the color black.
 - c) The wire that is colored brown must be connected to the terminal that is marked with the letter L or the color red.
18. This electrical apparatus should not be exposed to dripping or splashing and care should be taken not to place objects containing liquids, such as vases, upon the apparatus.
19. Exposure to extremely high noise levels may cause a permanent hearing loss. Individuals vary considerably in susceptibility to noise-induced hearing loss, but nearly everyone will lose some hearing if exposed to sufficiently intense noise for a sufficient time. The U.S. Government's Occupational Safety and Health Administration (OSHA) has specified the following permissible noise level exposures:

Duration Per Day In Hours	Sound Level dBA, Slow Response
8	90
6	92
4	95
3	97
2	100
1 1/2	102
1	105
1/2	110
1/4 or less	115

According to OSHA, any exposure in excess of the above permissible limits could result in some hearing loss. Earplugs or protectors to the ear canals or over the ears must be worn when operating this amplification system in order to prevent a permanent hearing loss, if exposure is in excess of the limits as set forth above. To ensure against potentially dangerous exposure to high sound pressure levels, it is recommended that all persons exposed to equipment capable of producing high sound pressure levels such as this amplification system be protected by hearing protectors while this unit is in operation.



SAVE THESE INSTRUCTIONS!

WICHTIGE SICHERHEITSHINWEISE

ACHTUNG: Beim Einsatz von Elektrogeräten müssen u.a. grundlegende Vorsichtsmaßnahmen befolgt werden:

1. Lesen Sie sich diese Anweisungen durch.
2. Bewahren Sie diese Anweisungen auf.
3. Beachten Sie alle Warnungen.
4. Befolgen Sie alle Anweisungen.
5. Setzen Sie dieses Gerät nicht in der Nähe von Wasser ein.
6. Reinigen Sie es nur mit einem trockenen Tuch.
7. Blockieren Sie keine der Lüftungsöffnungen. Führen Sie die Installation gemäß den Anweisungen des Herstellers durch.
8. Installieren Sie das Gerät nicht neben Wärmequellen wie Heizungen, Heizeräten, Öfen oder anderen Geräten (auch Verstärkern), die Wärme erzeugen.
9. Beeinträchtigen Sie nicht die Sicherheitswirkung des gepolten Steckers bzw. des Erdungssteckers. Ein gepolter Stecker weist zwei Stifte auf, von denen einer breiter ist als der andere. Ein Erdungsstecker weist zwei Stifte und einen dritten Erdungsstift auf. Der breite Stift bzw. der dritte Stift dient Ihrer Sicherheit. Sollte der beiliegende Stecker nicht in Ihre Steckdose passen, wenden Sie sich bitte an einen Elektriker, um die ungeeignete Steckdose austauschen zu lassen.
10. Schützen Sie das Netzkabel, sodass niemand darauf tritt oder es geknickt wird, insbesondere an Steckern oder Buchsen und ihren Austrittsstellen aus dem Gerät.
11. Verwenden Sie nur die vom Hersteller erhältlichen Zubehörgeräte oder Zubehörteile.
12.  Verwenden Sie nur einen Wagen, Stativ, Dreifuß, Träger oder Tisch, der den Angaben des Herstellers entspricht oder zusammen mit dem Gerät verkauft wurde. Wird ein Wagen verwendet, bewegen Sie den Wagen mit dem darauf befindlichen Gerät besonders vorsichtig, damit er nicht umkippt und möglicherweise jemand verletzt wird.
13. Trennen Sie das Gerät während eines Gewitters oder während längerer Zeiträume, in denen es nicht benutzt wird, von der Stromversorgung.
14. Lassen Sie sämtliche Wartungsarbeiten von qualifizierten Kundendiensttechnikern durchführen. Eine Wartung ist erforderlich, wenn das Gerät in irgendeiner Art beschädigt wurde, etwa wenn das Netzkabel oder der Netzstecker beschädigt wurden, Flüssigkeit oder Gegenstände in das Gerät gelangt sind, das Gerät Regen oder Feuchtigkeit ausgesetzt wurde, nicht normal arbeitet oder heruntergefallen ist.
15. Der Erdungsstift darf nie entfernt werden. Auf Wunsch senden wir Ihnen gerne unsere kostenlose Broschüre „Shock Hazard and Grounding“ (Gefahr durch elektrischen Schlag und Erdung) zu. Schließen Sie nur an die Stromversorgung der Art an, die am Gerät neben dem Netzkabel angegeben ist.
16. Wenn dieses Produkt in ein Gerät-Rack eingebaut werden soll, muss eine Versorgung über die Rückseite eingerichtet werden.
17. Hinweis – Nur für Großbritannien: Sollte die Farbe der Drähte in der Netzeleitung dieses Geräts nicht mit den Klemmen in Ihrem Stecker übereinstimmen, gehen Sie folgendermaßen vor:
 - a) Der grün-gelbe Draht muss an die mit E (Symbol für Erde) markierte bzw. grüne oder grün-gelbe Klemme angeschlossen werden.
 - b) Der blaue Draht muss an die mit N markierte bzw. schwarze Klemme angeschlossen werden.
 - c) Der braune Draht muss an die mit L markierte bzw. rote Klemme angeschlossen werden.
18. Dieses Gerät darf nicht ungeschützt Wassertropfen und Wasserspritzern ausgesetzt werden und es muss darauf geachtet werden, dass keine mit Flüssigkeiten gefüllte Gegenstände, wie z. B. Blumenvasen, auf dem Gerät abgestellt werden.
19. Belastung durch extrem hohe Lärmpegel kann zu dauerhaftem Gehörverlust führen. Die Anfälligkeit für durch Lärm bedingten Gehörverlust ist von Mensch zu Mensch verschieden, das Gehör wird jedoch bei jedem in gewissem Maße geschädigt, der über einen bestimmten Zeitraum ausreichend starkem Lärm ausgesetzt ist. Die US-Arbeitsschutzbehörde (Occupational and Health Administration, OSHA) hat die folgenden zulässigen Pegel für Lärmbelastung festgelegt:

Dauer pro Tag in Stunden	Geräuschpegel dBA, langsame Reaktion
8	90
6	92
4	95
3	97
2	100
1 ½	102
1	105
½	110
¼ oder weniger	115

Laut OSHA kann jede Belastung über den obenstehenden zulässigen Grenzwerten zu einem gewissen Gehörverlust führen. Sollte die Belastung die obenstehenden Grenzwerte übersteigen, müssen beim Betrieb dieses Verstärkungssystems Ohrenstopfen oder Schutzvorrichtungen im Gehörgang oder über den Ohren getragen werden, um einen dauerhaften Gehörverlust zu verhindern. Um sich vor einer möglicherweise gefährlichen Belastung durch hohe Schalldruckpegel zu schützen, wird allen Personen empfohlen, die mit Geräten arbeiten, die wie dieses Verstärkungssystem hohe Schalldruckpegel erzeugen können, beim Betrieb dieses Geräts einen Gehörschutz zu tragen.



BEWAHREN SIE DIESE SICHERHEITSHINWEISE AUF!

INSTRUCTIONS IMPORTANTES DE SECURITE

ATTENTION: L'utilisation de tout appareil électrique doit être soumise aux précautions d'usage incluant:



1. Lire ces instructions.
2. Gardez ce manuel pour de futures références.
3. Prétez attention aux messages de précautions de ce manuel.
4. Suivez ces instructions.
5. N'utilisez pas cette unité proche de plans d'eau.
6. N'utilisez qu'un tissu sec pour le nettoyage de votre unité.
7. N'obstruez pas les systèmes de refroidissement de votre unité et installez votre unité en fonction des instructions de ce manuel.
8. Ne positionnez pas votre unité à proximité de toute source de chaleur.
9. Connectez toujours votre unité sur une alimentation munie de prise de terre utilisant le cordon d'alimentation fourni.
10. Protégez les connecteurs de votre unité et positionnez les cablages pour éviter toutes déconnexions accidentielles.
11. N'utilisez que des fixations approuvées par le fabricant.
12. Lors de l'utilisation sur pied ou pole de support, assurez dans le cas de déplacement de l'ensemble enceinte/support de prévenir tout basculement intempestif de celui-ci.
13. Il est conseillé de déconnecter du secteur votre unité en cas d'orage ou de durée prolongée sans utilisation.
14. Seul un technicien agréé par le fabricant est à même de réparer/contrôler votre unité. Celle-ci doit être contrôlée si elle a subit des dommages de manipulation, d'utilisation ou de stockage (humidité,...).
15. Ne déconnectez jamais la prise de terre de votre unité.
16. Si votre unité est destinée à être montée en rack, des supports arrière doivent être utilisés.
17. Note pour les Royaumes-Unis: Si les couleurs de connecteurs du câble d'alimentation ne correspondent pas au guide de la prise secteur, procédez comme suit:
 - a) Le connecteur vert et jaune doit être connecter au terminal noté E, indiquant la prise de terre ou correspondant aux couleurs verte ou verte et jaune du guide.
 - b) Le connecteur Bleu doit être connecter au terminal noté N, correspondant à la couleur noire du guide.
 - c) Le connecteur marron doit être connecter au terminal noté L, correspondant à la couleur rouge du guide.
18. Cet équipement électrique ne doit en aucun cas être en contact avec un quelconque liquide et aucun objet contenant un liquide, vase ou autre ne devrait être posé sur celui-ci.
19. Une exposition à de hauts niveaux sonores peut conduire à des dommages de l'écoute irréversibles. La susceptibilité au bruit varie considérablement d'un individu à l'autre, mais une large majorité de la population expériera une perte de l'écoute après une exposition à une forte puissance sonore pour une durée prolongée. L'organisme de la santé américaine (OSHA) a produit le guide ci-dessous en rapport à la perte occasionnée:

Durée par Jour (heures)	Niveau sonore moyen (dBA)
8	90
6	92
4	95
3	97
2	100
1 ½	102
1	105
½	110
¼ ou inférieur	115

D'après les études menées par le OSHA, toute exposition au delà des limites décrites ci-dessus entraînera des pertes de l'écoute chez la plupart des sujets. Le port de système de protection (casque, oreillette de filtrage,...) doit être observé lors de l'opération cette unité ou des dommages irréversibles peuvent être occasionnés. Le port de ces systèmes doit être observé par toutes personnes susceptibles d'être exposées à des conditions au delà des limites décrites ci-dessus.

GARDEZ CES INSTRUCTIONS!

INSTRUCCIONES IMPORTANTES PARA SU SEGURIDAD

CUIDADO: Cuando use productos electrónicos, debe tomar precauciones básicas, incluyendo las siguientes:



- CE
1. Lea estas instrucciones.
 2. Guarde estas instrucciones.
 3. Haga caso de todos los consejos.
 4. Siga todas las instrucciones.
 5. No usar este aparato cerca del agua.
 6. Limpiar solamente con una tela seca.
 7. No bloquear ninguna de las salidas de ventilación. Instalar de acuerdo a las instrucciones del fabricante.
 8. No instalar cerca de ninguna fuente de calor como radiadores, estufas, hornos u otros aparatos (incluyendo amplificadores) que produzcan calor.
 9. No retire la patilla protectora del enchufe polarizado o de tipo “a Tierra”. Un enchufe polarizado tiene dos puntas, una de ellas más ancha que la otra. Un enchufe de tipo “a Tierra” tiene dos puntas y una tercera “a Tierra”. La punta ancha (la tercera) se proporciona para su seguridad. Si el enchufe proporcionado no encaja en su enchufe de red, consulte a un electricista para que reemplaze su enchufe obsoleto.
 10. Proteja el cable de alimentación para que no sea pisado o pinchado, particularmente en los enchufes, huecos, y los puntos que salen del aparato.
 11. Usar solamente añadidos/accesorios proporcionados por el fabricante.
 12. Usar solamente un carro, pie, trípode, o soporte especificado por el fabricante, o vendido junto al aparato. Cuando se use un carro, tenga cuidado al mover el conjunto carro/aparato para evitar que se dañe en un vuelco. No suspenda esta caja de ninguna manera.
 13. Desenchufe este aparato durante tormentas o cuando no sea usado durante largos periodos de tiempo.
 14. Para cualquier reparación, acuda a personal de servicio cualificado. Se requieren reparaciones cuando el aparato ha sido dañado de alguna manera, como cuando el cable de alimentación o el enchufe se han dañado, algún líquido ha sido derramado o algún objeto ha caído dentro del aparato, el aparato ha sido expuesto a la lluvia o la humedad, no funciona de manera normal, o ha sufrido una caída.
 15. Nunca retire la patilla de Tierra. Escríbanos para obtener nuestro folleto gratuito “Shock Hazard and Grounding” (“Peligro de Electrocución y Toma a Tierra”). Conecte el aparato sólo a una fuente de alimentación del tipo marcado al lado del cable de alimentación.
 16. Si este producto va a ser enrulado con más equipo, use algún tipo de apoyo trasero.
 17. Nota para el Reino Unido solamente: Si los colores de los cables en el enchufe principal de esta unidad no corresponden con los terminales en su enchufe, proceda de la siguiente manera:
 - a) El cable de color verde y azul debe ser conectado al terminal que está marcado con la letra E, el símbolo de Tierra (earth), coloreado en verde o en verde y amarillo.
 - b) El cable coloreado en azul debe ser conectado al terminal que está marcado con la letra N o el color negro.
 - c) El cable coloreado en marrón debe ser conectado al terminal que está marcado con la letra L o el color rojo.
 18. Este aparato eléctrico no debe ser sometido a ningún tipo de goteo o salpicadura y se debe tener cuidado para no poner objetos que contengan líquidos, como vasos, sobre el aparato.
 19. La exposición a altos niveles de ruido puede causar una pérdida permanente en la audición. La susceptibilidad a la pérdida de audición provocada por el ruido varía según la persona, pero casi todo el mundo perderá algo de audición si se expone a un nivel de ruido suficientemente intenso durante un tiempo determinado. El Departamento para la Salud y para la Seguridad del Gobierno de los Estados Unidos (OSHA) ha especificado las siguientes exposiciones al ruido permisibles:

Duración por Día en Horas	Nivel de Sonido dBA, Respuesta Lenta
8	90
6	92
4	95
3	97
2	100
1 ½	102
1	105
½	110
¼ o menos	115

De acuerdo al OSHA, cualquier exposición que excede los límites arriba indicados puede producir algún tipo de pérdida en la audición. Protectores para los canales auditivos o tapones para los oídos deben ser usados cuando se opere con este sistema de sonido para prevenir una pérdida permanente en la audición, si la exposición excede los límites indicados más arriba. Para protegerse de una exposición a altos niveles de sonido potencialmente peligrosa, se recomienda que todas las personas expuestas a equipamiento capaz de producir altos niveles de presión sonora, tales como este sistema de amplificación, se encuentren protegidas por protectores auditivos mientras esta unidad esté operando.

GUARDE ESTAS INSTRUCCIONES!

PV 1600™

Power Amplifier

Congratulations! You have just taken a giant step forward towards sonic clarity in your sound system. This PV amplifier was specially designed as an integrated bi-amped power package forming a system with Peavey SP2, SP4 or Impulse 1015 speakers. Not only does it provide the correct amount of power to optimally drive these speaker systems, it also features a carefully designed electronic crossover and processing section. Using proven technology gained through years of amplifier design, this unit takes advantage of rugged TO-3P output devices mounted on massive aluminum extrusions and dissipates heat via an extremely quiet and effective two-speed fan. PV amplifiers employ mammoth toroidal power transformers and offer impressive specifications and features not found on similarly priced competitive units.

This amp is optimized specifically to drive a pair of SP2s, Impulse 1015s or a single SP4 speaker but will perform well with similar systems due to similarity of most professional sound drivers. The PV 1600 bi-pack crossover is not just a simple textbook-style crossover found in most other brands. It has been specially engineered to enhance the inherent response of the speakers. Instead of having flat looking output curves at tidy 3dB down at the crossover points, this system takes into account the response of the individual drivers and tailors the electronic curves to sum with the acoustic response to provide a flat system output.

The crossover points are staggered and the drivers under lapped to provide the most accurate acoustic summing of the two drivers all through the crossover region. This design approach is somewhat like that of an all-pass Linkwitz-Riley class of crossover, with the drivers remaining substantially in phase through the crossover region. In this way, the two separate drivers blend together very smoothly at the crossover, without wild lobes of energy creating hot spots or dead spots.

The high frequency section receives appropriate response shaping to compensate for driver response and constant directivity horn coverage. A mild bass boost centered around 50 Hz, along with a subsonic (infrasonic) roll off below that, helps avoid very low frequency overload. In addition to the classic bass boost, a gentle slope throughout the rest of the low frequency range is incorporated up to the crossover frequency.

PV amplifiers are ruggedly constructed and rack-mountable. Front panel features include calibrated, detented gain (dB) controls and LED indicators for power (PWR), signal presence (SIG), and DDT® (Distortion Detection Technique) activation on each channel, as well as a rocker mains POWER switch. The back panel contains an IEC connector for the mains power cord, a mains circuit breaker with reset, and the critical cooling fan opening. (This opening requires an adequate supply of cool air and should never be blocked or restricted.) The input section includes a combo XLR / 1/4" phone jack connector, THRU/LOW out and HIGH out 1/4" jacks. Channel output sections feature dual four-conductor Speakon® connectors. Used with 4 wire Speakon to Speakon speaker cables, it provides a rugged and foolproof hookup.



Before you begin playing through your amplifier, it is very important to ensure that the product has the proper AC line voltage supplied. You can find the proper voltage for your amp printed next to the IEC line (power) cord on the rear panel of the unit. Each product feature is numbered. Refer to the front panel diagram in this manual to locate the particular features next to its number.

Please read this guide carefully to ensure your personal safety as well as the safety of your amplifier.



VENTILATION: For proper ventilation, allow 24" clearance from nearest combustible surface.

Unpacking

Inspect the amplifier during unpacking. If any damage is found, notify your dealer immediately. Be sure to save the carton and all packing materials. Should you ever need to ship the unit back to Peavey Electronics, one of its service centers, or the dealer use only the original factory packing.

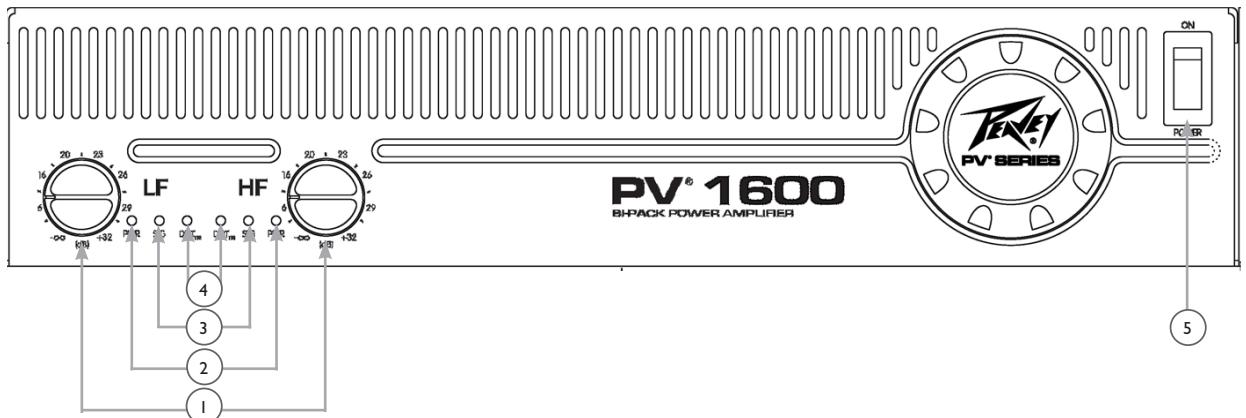
Installation

PV professional power amplifiers are designed for durability in commercial installations and provide the quality performance required in studio and home applications. Two-rack-space units of 16" (406 mm) depth are designed to mount in a standard 19" rack. Rear mounting ears are provided for additional support and should be utilized in portable racks. The minimum rack depth required from the mounting surface is 17" (432 mm) to allow adequate connector clearance.

Basic Setup

Rack mount the amplifier in the location where it is to be used, remembering to allow for adequate access and cooling space. Connect your mixer or equalizer to the INPUT connector and connect to the bi-amp connectors on the speakers to the speaker OUTPUT connectors with 4 conductor speaker cables. That's all there is to it. You now have a fully tuned, fully biamped system. With the POWER switch OFF, connect the IEC cord (7) to the amplifier and then to a suitable electrical outlet to allow proper current draw. With both channel gain (dB) controls at their fully counterclockwise +32 settings, turn the POWER switch to ON, and slowly raise the gain controls to desired settings. Normally, the HF and LF controls should be at the same setting, but should your venue require more low end or more high end, you can make this adjustment. Please carefully review this manual. It covers all this information in greater detail.

Front Panel



1 INPUT GAIN (dB)

The low and high channels of this amp each have individual Input Sensitivity controls. Normally these controls should be set the same but may be adjusted as needed in each situation. The setting controls the amount of signal necessary to drive the amplifier, not the output of the amplifier. A higher setting will result in more system headroom while a lower setting will result in lower system noise.

2 POWER LEDs (PWR)

These indicators illuminate when the AC mains power is being supplied to the amp and both High and Low channels are operational. If either channel experiences fault conditions, exceeds safe operating temperature limits, or if the mains circuit breaker trips, both channel power LEDs will be dark, indicating shutdown.

3 SIGNAL ACTIVITY LEDs

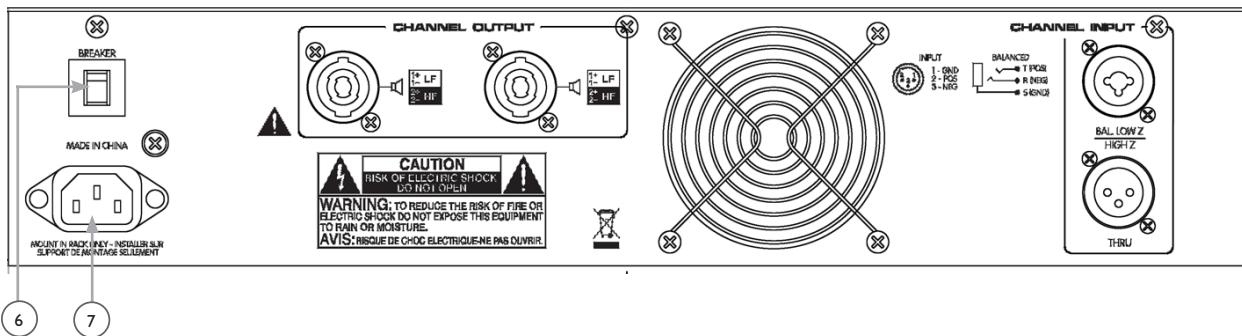
These indicators illuminate when the associated channel output signal level exceeds 1 V RMS.

4 DDT® ACTIVE LEDs

These indicators illuminate when DDT compression is taking place in the associated channel.

5 POWER SWITCH

This heavy-duty, rocker-type switch turns on the mains power to the amplifier. When the mains power is applied, there is a three-second delay in activation of the unit. This reduces/eliminates the turn-on transients associated with connected system equipment and protects loudspeakers.



6 CIRCUIT BREAKER

There is one circuit BREAKER on the PV® amplifier that limits current to the associated power transformer and protects it from overheating and possible destruction due to fault conditions in the unit. The trip current values have been carefully chosen to allow reasonable continuous power output performance, while still protecting the power transformer. This breaker should not trip unless there is a fault in the amplifier circuitry that causes excessive mains current draw. However, abnormal conditions such as a short circuit on either or both channels, or continuous operation at overload or clipping can cause the breaker to trip. If this occurs, turn the POWER switch OFF, wait a brief period of time to allow the unit to cool down, and reset the breaker. Efforts should be made to correct the cause of the overload if possible. When tripped, the button on the BREAKER will be outward approximately 1/4" and can be reset by pushing inward and upward. A normal reset button is relatively flat. If the breaker trips instantly each time you attempt to turn the unit on, it should be taken to a qualified Peavey Service Center for repair.

7 IEC MAINS CONNECTOR

This is a standard IEC power connector. An AC mains cord having the appropriate AC plug and ratings for the intended operating voltage is included in the carton.

U.S. DOMESTIC AC MAINS CORD

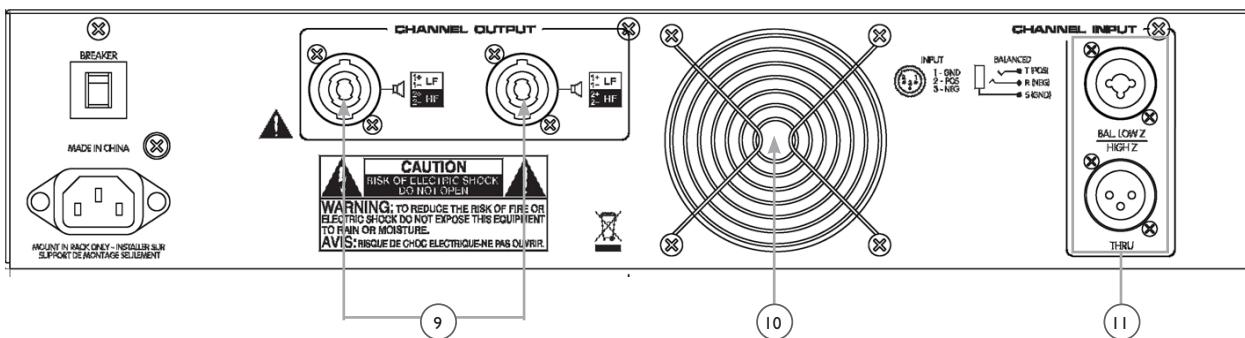
The mains cord supplied with the unit is a heavy-duty, three-conductor type with a conventional 120 VAC plug with ground pin. It should be connected to an independent circuit capable of continuously supporting at least 15 amps. This is particularly critical for sustained high-power applications. If the outlet used does not have a ground pin, a suitable grounding adapter should be used and the third wire grounded properly.

Never break off the ground pin on any equipment. It is provided for your safety.

The use of extension cords should be avoided but, if necessary, always use a three-wire type with at least a #14 AWG wire size. The use of lighter wire will severely limit the power capability of this amplifier. Always use a qualified electrician to install any new electrical equipment. To prevent the risk of shock or fire hazard, always be sure that the amplifier and all associated equipment is properly grounded.

NOTE: FOR UK ONLY

If the colors of the wires in the mains lead of this unit do not correspond with the colored markings identifying the terminals in your plug, proceed as follows: (1) The wire that is colored green and yellow must be connected to the terminal that is marked by the letter E, the earth symbol, colored green, or colored green and yellow. (2) The wire that is colored blue must be connected to the terminal that is marked with the letter N or the color black. (3) The wire that is colored brown must be connected to the terminal that is marked with the letter L or the color red.



9 SPEAKON® OUTPUTS

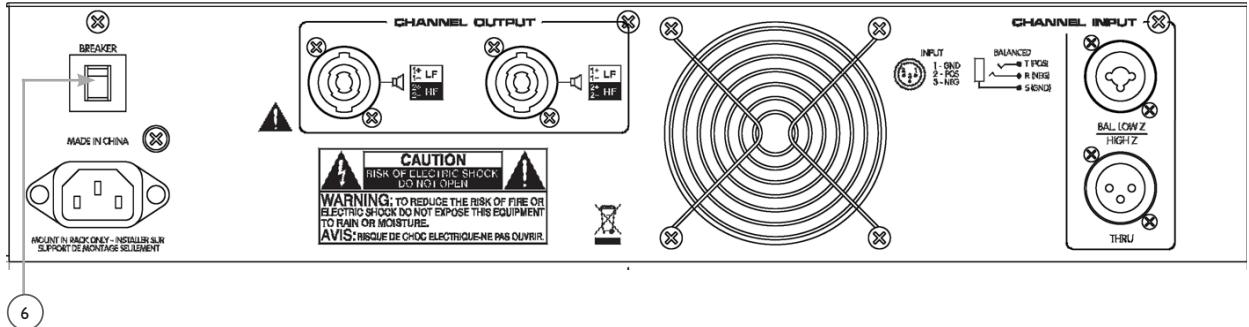
PV® 1600 utilizes 4-conductor Speakon connectors. Internally, the Speakons are wired with the Lows on pins 1+ and 1- and the Highs on pins 2+ and 2-. These will properly mate with all Peavey speakers that have Bi-amp inputs via Speakons. **Note:** For powering SP4 speakers, internal jumpers must be connected inside the speaker terminal plate (see the instructions in the PV4 owners manual).

10 FAN GRILL

A two-speed DC fan supplies cool air to the amplifier. **THIS INTAKE SHOULD NEVER BE BLOCKED!** The fan switches to high speed automatically when the unit requires additional cooling. At idle and cool, the fan should be in low speed. The fan should never stop unless the amplifier is switched OFF or the AC mains power source is interrupted.

11 COMBO INPUT CONNECTOR

The combo connector offers both female XLR and 1/4" phone jack balanced inputs. The XLR is wired with pin 1 as ground, pin 2 positive input, and pin 3 negative input. The 1/4" phone jack is a tip/ring/sleeve (3-conductor) type, with the tip being positive input, the ring negative input, and the sleeve ground. It is important to realize that the XLR and the 1/4" jack are in parallel. Use a male XLR or a 3-conductor phone jack for balanced input. As an alternative, the 1/4" input can also be used with a regular tip/sleeve (2-conductor) type plug commonly found on single-conductor shielded patch cords. In this case, the input becomes unbalanced, with the tip as positive input, and the sleeve as ground (the ring being grounded by the sleeve of the plug). An additional unique feature of this 1/4" input jack is something called a quasi-balanced input. The sleeve of this jack is connected to chassis ground through a relatively low-value resistance that is part of a ground loop elimination circuit. This circuitry provides hum-free operation when relatively short 1/4" cable patches are made to this input from various outputs on this amplifier, or from other equipment that shares the same rack with this amplifier. The quasi-balanced circuitry is automatic and virtually invisible in normal usage.



CIRCUIT BREAKER

For commercial and other installations where sustained high-power operation is required, the amplifiers should be mounted in a standard 19" rack. It is not necessary to leave a rack space between each amplifier in the stack since each fan pulls air in from the rear and exhausts the hot air out the front. However, an adequate cool air supply must be provided for the amplifier when rack mounted. The internal fan must have a source of air that is not preheated by other equipment. The amplifier will start up in low speed fan operation and will normally stay at low speed unless sustained high-power operating levels occur. Then, as temperatures in the amplifier heat sinks increase, the automatic thermal-sensing circuitry causes high-speed fan operation. Depending upon signal conditions and amp loading, high-speed fan operation may continue or the fan may cycle continuously between high and low. If cooling is inadequate, however, the amplifier thermal-sensing system may cause temporary shut down of the unit, indicated by the PWR LEDs on both channels going dark. Inadequate cooling may be due to preheated air, reduced air flow resulting from blockage of inlet/outlet ports, severe amplifier overload, or short circuit conditions. Depending upon available cooling air, operation should be restored relatively quickly, and the power LEDs on both channels will again be illuminated. In any event, action should be taken to correct the cause of the thermal shutdown. If the amplifier is not severely overloaded or shorted and air flow is normal in and out of the amplifier, then steps should be taken to provide a cooler environment for all the amplifiers. As a general rule, providing adequate ventilation to electronic equipment extends its service life.

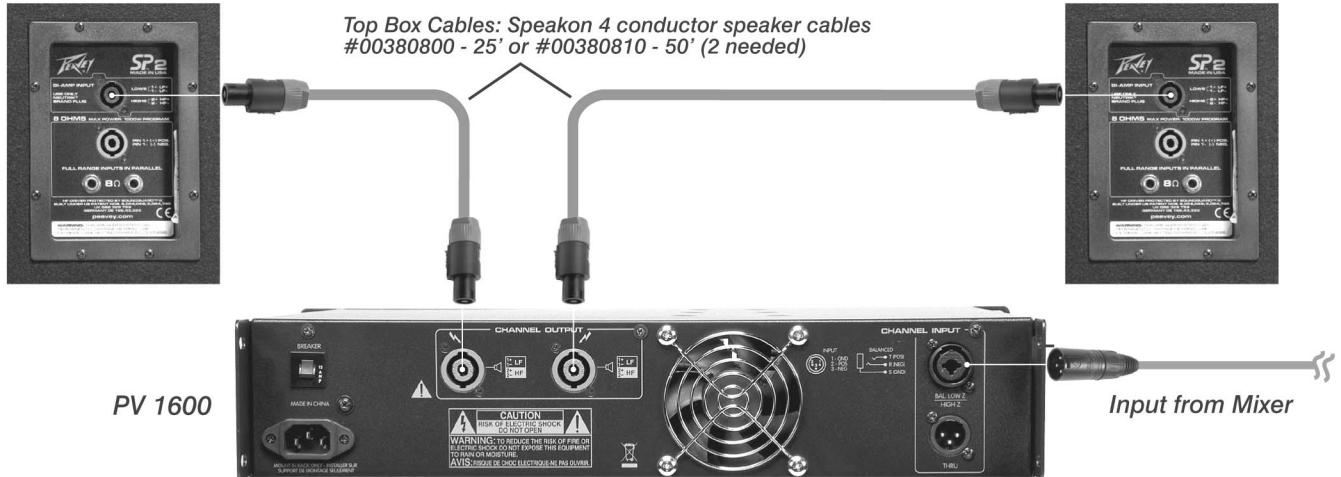
While in most low to medium-power applications, your amplifier can be mounted anywhere, Peavey® recommends locating your PV 1600 at the top of an equipment stack. This will prevent possible overheating of sensitive equipment by the hot air rising from the power amplifier. Most home and studio requirements will never cause high-speed fan operation. High-speed operation may indicate that you have not taken the necessary steps to provide adequate cooling.



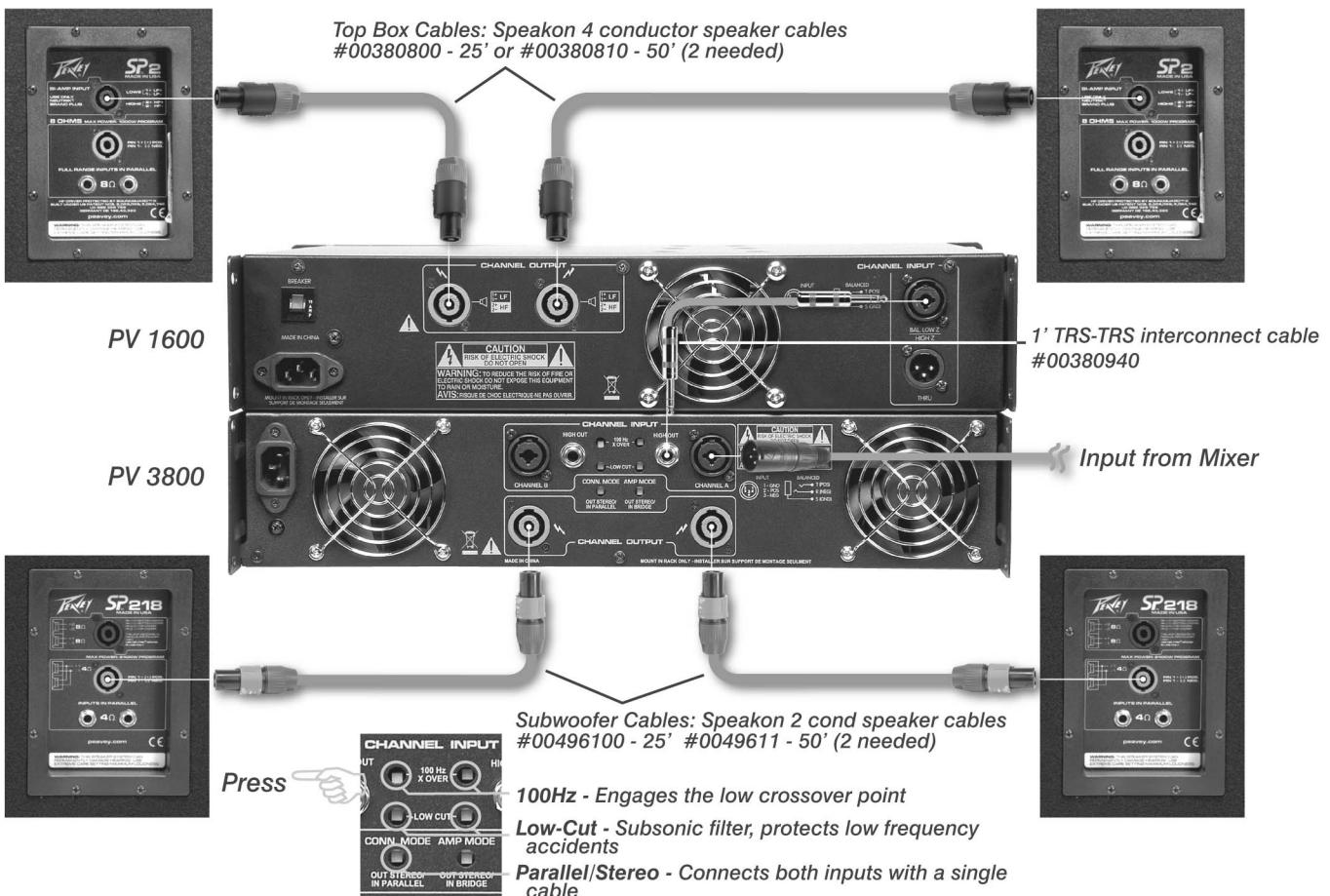
NOTE: When fully closed up in a cabinet, a PV® Series power amplifier will have severe cooling problems, even at low power levels.

Peavey's patented DDT (Distortion Detection Technique) compression circuit enables the sound technician to maximize the performance of the amplifier/speaker combination by preventing the power amplifier from running out of headroom (clipping). This fully automatic compression system features a unique circuit that senses signal conditions that might overload the amplifier. It activates compression (reduces the channel gain) when clipping is imminent. The threshold of compression is clipping itself, and no specific threshold control is used. This technique effectively utilizes every precious watt available for the power amplifier to reproduce the signal, while at the same time minimizing clipping and distortion. DDT significantly reduces the potential of loudspeaker degradation and damage, and is the most effective, automatic, hands-off approach to the problem of power amplifier clipping. Since PV series power amplifiers use a circuit breaker for overcurrent protection, the DDT compression system plays an even more important role in continuous performance by preventing each channel from clipping and overload. Continuous operation at clipping can cause the circuit breaker to trip, but with the DDT activated, this problem is minimized.

Hooking up the PV Bi-Amp system:



Hooking up the PV Tri-Amp system:



Tech info:**Crossover**

The electro-acoustic crossover point is 1.5 kHz. The final slope is 24 dB per octave for the woofer and 18 dB per octave for the tweeter.

Infrasonic filtering is present at the initial rate of 12 dB per octave, and at the final rate of 24 dB per octave. (The -3 dB filter point is at 40 Hz, and the -10 dB point is at 26 Hz.)

There are no multiple-feedback filters. All filters are implemented using simple gain stages, unity gain buffers, and passive filter circuits for maximum signal clarity and sonic precision.
No filter ringing, all filter stages critically damped.

High quality parts are used in the filter circuits. All poly caps are used in the filters.

Response tailored to the acoustic output of the speakers, so the sum of the electrical and acoustic outputs provides an acoustic total response that is more precise and stable.

Bi-amping:

Bi-amplification is the splitting of the full range sound signal into high frequency and low frequency components, similar to what the passive internal crossover is doing inside the speaker. However, bi-amping is done at line level via an electronic crossover circuit and fed to two separate power amp channels. When using full range speakers with a bi-amplification option, bi-amplification often provides more actual sound output capability and better reliability than merely bridging an amplifier.

PV1600 Specifications

Rated Power Low Freq: (4 ohms) 930 watts @ .1% T.H.D.	Input CMRR: ->55 dB @ 1 kHz	Controls: 2 front panel attenuators
Rated Power High Freq: (4 ohms) 350 watts @ .15% T.H.D.	Voltage Gain: x40 (32 dB)	Indicator LEDs: 2 DDT (clip limiting) 2 Signal presence 2 Active status
Rated Power Low Freq: (8 ohms) 575 watts @ .05% T.H.D.	Hum and Noise: ->98 dB unweighted	Protection: Thermal, DC, turn-on bursts, subsonic, incorrect loads
Rated Power High Freq: (8 ohms) 210 watts @ .1% T.H.D.	Damping Factor (8 ohms): ->300:1@ 1 kHz	Connectors: Combi XLR input & XLR patch Two Speakon® speaker outputs 15 amp IEC mains connector
Minimum Load Impedance: 4 ohms	Input Sensitivity: 1.38 volts +/- 3% for 4 ohm rated power	Dimensions: 3.5" x 19" x 15.5" (8.89 cm x 48.26 cm x 38.0 cm)
Frequency response: 20 Hz - 50 kHz; +0, -3dB at rated output	Input Impedance: 15 k ohms, balanced	Net Weight: 39 lbs (17.7 kg)
Current Draw @ 1/8 power: 1,000 wats @ 4 ohms		
Cooling: One back panel temperature dependant two speed 80 mm DC fan		

All power measurements made at 120 VAC at the amplifier. 4 ohm power is time limited by the circuit breaker.

Features and specifications subject to change without notice.

NOTES

NOTES

PEAVEY ELECTRONICS CORPORATION LIMITED WARRANTY

EFFECTIVE DATE: JULY 1, 1998

What This Warranty Covers

Your Peavey Warranty covers defects in material and workmanship in Peavey products purchased and serviced in the U.S.A. and Canada.

What This Warranty Does Not Cover

The Warranty does not cover: (1) damage caused by accident, misuse, abuse, improper installation or operation, rental, product modification or neglect; (2) damage occurring during shipment; (3) damage caused by repair or service performed by persons not authorized by Peavey; (4) products on which the serial number has been altered, defaced or removed; (5) products not purchased from an Authorized Peavey Dealer.

Who This Warranty Protects

This Warranty protects only the original retail purchaser of the product.

How Long This Warranty Lasts

The Warranty begins on the date of purchase by the original retail purchaser. The duration of the Warranty is as follows:

Product Category	Duration
Guitars/Basses, Amplifiers, Pre-Amplifiers, Mixers, Electronic Crossovers and Equalizers	2 years (+ 3 years)*
Drums	2 years (+ 1 year)*
Enclosures	3 years (+ 2 years)*
Digital Effect Devices and Keyboard and MIDI Controllers	1 year (+ 1 year)*
Microphones	2 years
Speaker Components (incl. speakers, baskets, drivers, diaphragm replacement kits and passive crossovers) and all Accessories	1 year
Tubes and Meters	90 days

[*Denotes additional warranty period applicable if optional **Warranty Registration Card** is completed and returned to Peavey by original retail purchaser within 90 days of purchase.]

What Peavey Will Do

We will repair or replace (at Peavey's discretion) products covered by warranty at no charge for labor or materials. If the product or component must be shipped to Peavey for warranty service, the consumer must pay initial shipping charges. If the repairs are covered by warranty, Peavey will pay the return shipping charges.

How To Get Warranty Service

(1) Take the defective item and your sales receipt or other proof of date of purchase to your Authorized Peavey Dealer or Authorized Peavey Service Center.

OR

(2) Ship the defective item, prepaid, to Peavey Electronics Corporation, International Service Center, 412 Highway 11 & 80 East, Meridian, MS 39301 or Peavey Canada Ltd., 95 Shields Court, Markham, Ontario, Canada L3R 9T5. Include a detailed description of the problem, together with a copy of your sales receipt or other proof of date of purchase as evidence of warranty coverage. Also provide a complete return address.

Limitation of Implied Warranties

ANY IMPLIED WARRANTIES, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE LIMITED IN DURATION TO THE LENGTH OF THIS WARRANTY.

Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you.

Exclusions of Damages

PEAVEY'S LIABILITY FOR ANY DEFECTIVE PRODUCT IS LIMITED TO THE REPAIR OR REPLACEMENT OF THE PRODUCT, AT PEAVEY'S OPTION. IF WE ELECT TO REPLACE THE PRODUCT, THE REPLACEMENT MAY BE A RECONDITIONED UNIT. PEAVEY SHALL NOT BE LIABLE FOR DAMAGES BASED ON INCONVENIENCE, LOSS OF USE, LOST PROFITS, LOST SAVINGS, DAMAGE TO ANY OTHER EQUIPMENT OR OTHER ITEMS AT THE SITE OF USE, OR ANY OTHER DAMAGES WHETHER INCIDENTAL, CONSEQUENTIAL OR OTHERWISE, EVEN IF PEAVEY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

This Warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

If you have any questions about this warranty or service received or if you need assistance in locating an Authorized Service Center, please contact the Peavey International Service Center at (601) 483-5365 / Peavey Canada Ltd. at (905) 475-2578.

FEATURES AND SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE.



Logo referenced in Directive 2002/96/EC Annex IV (OJL)27/38,13.02.03 and defined in EN 50419: 2005

The bar is the symbol for marking of new waste and is applied only to equipment manufactured after 13 August 2005



Features and specifications subject to change without notice.

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